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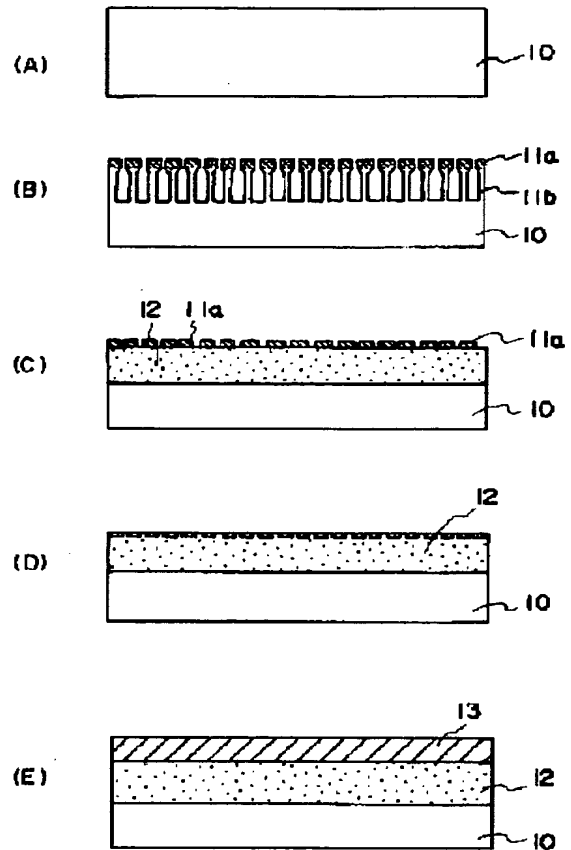
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TITLE : MANUFACTURE OF SOI SUBSTRATE



ABSTRACT : PROBLEM TO BE SOLVED: To flatten the surface of a semiconductor substrate, and to equalize the thickness of a semiconductor thin-film by forming a plurality of posts with columnar sections extended from the semiconductor substrate and head sections thicker than the posts and oxidizing a plurality of the posts.

SOLUTION: A silicon substrate 10 is brought to a porous state by anodizing treatment, and the head sections 11a of porous silicon are formed. Electric current density is changed, and the columnar sections 11b of porous silicon are formed by anodizing treatment again. Consequently, porous silicon layers consisting of a plurality of posts with the head sections 11a and the columnar sections 11b are formed to the silicon substrate 10. The silicon substrate is thermally oxidized and treated, and the columnar sections 11b of the porous silicon layers are converted into oxide films. Oxygen is passed into the holes of the head sections 11a of the porous silicon layers and the columnar sections 11b are supplied with oxygen in thermal oxidizing treatment, and the columnar sections 11b are changed into thermal oxide films and the voids of the columnar sections 11b are closed. The surface of the substrate is flattened through heat treatment, and a thin-film is formed.

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